

Abstract

A functional unit in a digital system is provided with a rounding DOT product instruction, wherein a product of first pair of elements is combined with a product of second pair of elements, the combined product is rounded, and the final result is stored in a destination. Rounding is performed by adding a rounding value to form an intermediate result, and then shifting the intermediate result right. A combined result is rounded to a fixed length shorter than the combined product. The products are combined by either addition or subtraction. An overflow resulting from the combination or from rounding is not reported.

GO GO GO GO GO GO GO